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ABSTRACT

This study compared the social behaviors of daycare-attending and home-reared children in a novel social setting with both an unfamiliar peer and adult. Subjects were 24 children 26 months of age, each accompanied by a familiar caretaker. Twelve children (5 girls and 7 boys) were a randomly drawn sample of the general population recruited from county birth records. Nine of these children were reared at home and three were in full-time daycare. The twelve children in the experimental group (5 girls and 7 boys) participated in a daycare intervention project. The children were brought to an observation room with their caretakers or mothers and were observed in three 7-minute sessions which differed in the number of toys provided (no toys, one toy, 5 toys). Caretakers were asked not to initiate interactions with the children or direct the children's play. Results showed no differences in the peer behavior

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The Influence of Daycare on Social Behaviors Towards Peers and Adults

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Increasingly researchers have recognized the need to examine the effects of preschool intervention programs on social development rather than relying solely on standardized measures of cognitive development to evaluate their programs (Anderson and Messick, 1974). With regard to social behavior systematic daycare has two distinctive features. These features were the basis for the questions addressed by this study. First, a child in daycare is introduced to an extended peer group earlier than would otherwise typically happen. We wanted to know if early and continuous experience with peers would influence the development behaviors towards peers. Second, a child in daycare has the opportunity to develop long-term relationships with adults outside the home. Therefore, we were curious to determine whether this experience affected the way children behave towards adults who were not their regular caretakers.

Little is known about the effects of daycare intervention programs for disadvantaged children on their behaviors towards peers. Studies involving children from a more general population provide equivocal results. In one study, kindergarteners who previously attended nursery school were rated lower on a scale concerning adjustment to peer relations than children who had no prior school experience (Brown & Hunt, 1961). In another study children whith prior daycare experience were rated more aggressive towards peers than a group of home-reared youngsters (Schwarz, Strickland & Krolick, 1974). However, other data indicated that there was no difference in the amount of aggression among kindergarten children with either 0, 1, or 2 years of previous nursery school experience (Raph, Thomas, Chess & Korn, 1968).

Data on peer interactions of toddlers are also inconsistent. Ricciuti (1974) reported that daycare-attending toddlers were more willing to interact with unfamiliar children than were home reared children. However, Doyle (1975) found

daycare-attending toddlers were less likely to initiate interactions than were their home-reared peers.

Recent findings indicate that daycare attendance is associated with less apprehensive interactions with adults other than the parent (Kagan, Kearsley & Zelazo, 1976). However, such interactions are more often of negative quality, involving less cooperation and more aggression (Raph et al., 1968, Schwarz et al., 1974).

In general it appears that daycare attendance is associated with an enhanced tendency to explore novel social environments, but may also be associated with more aggressive behaviors towards peers and adults. The present study attempted to examine the effects of daycare on social behaviors by observing daycare-attending and home-reared children when introduced to a novel social setting in which there were both an unfamiliar peer and adult.

Method

Subjects

Twenty-four 26 month old children, each accompanied by a familiar caretaker, participated in this study. Twelve children, 5 girls and 7 boys, were a randomly drawn sample of the general population recruited from county birth records. These children were the general population sample. Nine of these children were reared at home and three were in full-time daycare. The other 12 children, 5 girls and 7 boys, participated in a daycare intervention project (see Ramey, 1977). These children were the experimental group (HRE). Children from the general population and experimental groups were paired with each other solely on the basis of age and then brought together to be observed.

The general population children were accompanied by their mothers and the experimental children were accompanied by their daycare teacher. Thus, the children were accompanied by the person they were customarily with during the time of day the observation took place. This was done in order not to significantly alter

the children's daily routines.

Procedure

The children and their caretakers were brought to an observation room that was furnished with two chairs for the caretakers on opposite sides of the room. The adults were asked not to initiate interactions with the children or to direct the play of the toddlers. However, adults were free to converse with each other or to respond to any initiations by the children. Generally the adults remained passive observers, occasionally chatting with each other.

Each observation was divided into three 7 minute trials which differed in the number of toys provided. In one trial, no toys were provided to the children. In another trial there was only one toy, a rubber ball. During the remaining trial, 5 toys were brought into the room. In addition to the rubber ball, there were (1) a xylophone, (2) a small doll house with toy people and furniture, (3) a pull toy animal, and (4) a car that could be taken apart and put together like a puzzle. The order of trials was determined by a Latin Square design. Toys were always placed midway between the children at the start of a trial. The sessions were videotaped and later scored by two observers, each assigned to code the behavior of one child.

Insert Table 1 here

The behavior categories are defined in detail in Table 1. The categories can be conceptually grouped into 3 major classes. The first class, which concerned interactions with peers, included:

(1) Vocalizations to the peer

(2) Active attempts to initiate interaction

(3) Passive attempts to initiate interaction

(4) Negative attempts to initiate interaction

(5) Lead interactive play

(6) Participate in interactive play

The second class of behaviors concerned interactions with the adults and included:

(7) Away from the familiar caretaker

(8) Interact with the familiar caretaker

(9) Proximity to the stranger

(10) Interact with the stranger

The first two classes concerned exploration of the social environment, whereas the third concerned exploration of the nonsocial environment and included only the category of solitary play.

Prior to the start of actual coding, the observers practiced until they reached a consensus on the definitions of the categories. Inter-observer agreement was assessed by rescoring 10 of the tapes. A 5 minute segment was randomly selected from the tape and each child's behavior in that segment was scored by both observers. The median percent agreement across all categories was 85%.

Results

The variables derived from the categories were separately analyzed as a 2 (groups) x 3 (trials) design. Membership in either the experimental or general population group was a between groups factor. The trials factor was a repeated measures factor and had 3 levels, no toys, 1 toy or 5 toys. In order to avoid making assumptions regarding the variance covariance matrices necessary for repeated measures ANOVA's, an approach was taken which employed MANOVA procedures (McCall & Appelbaum, 1973). Unless otherwise stated the level of significance for all tests was .05.

Social Explorations

Interactions with peers. The data analyses failed to reveal any differences in the peer behavior of the experimental and general population children. Generally, the behavior of the children towards each other could be described as friendly. Instances of aggression were extremely rare, occurring less than once per trial on the average. The only type of aggression observed consisted of

taking toys from each other. Hitting was never observed. Interestingly, there was a significant effect of the number of toys on the frequency of active initiations of peer interaction.

Insert Figure 1 here

As can be seen in Figure 1, there were more active and positive attempts to initiate interactions when there were either no toys or only one toy present than when there were 5 toys present. It was also the case that taking toys was more frequent in the 1 toy trial than in the 5 toy trial. However, the frequency of taking toys was low, and positive forms of interaction were much more prevalent than negative forms in all trials.

Interactions with adults. The analyses of variables concerning interaction and proximity to the adults suggested a greater willingness of experimental children to explore the adult component of the novel social environment.

Insert Figure 2 here

Figure 2 shows the percent of time spent interacting with familiar caretakers. Experimental children spent less time interacting with the familiar caretaker than general population children and the difference was significant.

Insert Figure 3 here

Figure 3 shows that in general, experimental children spent more time away from their familiar caretakers. That is, they spent more time in the

middle of the room or on the stranger's side of the room. In fact, experimental children spent more than half of the time away from the familiar caretaker.

Insert Figure 4 here

Comparing the groups on the measure of time spent on the stranger's side of the room (See Figure 4) revealed that the experimental children spent more time near the stranger than did general population children. The level of significance was .06.

Insert Figure 5 here

The group difference in the more direct measure of interacting with the stranger is shown on Figure 5. Note that the direction of difference is the same as for the measure of proximity to the stranger. Experimental children interacted more with the stranger than the general population children, but the difference was not reliable.

In sum, experimental children were more likely to venture from their caretaker's vicinity and to be near the stranger than were general population children. In contrast, general population children were more likely to be near their caretaker and interact with her than experimental children.

Insert Figure 6 here

The analysis of time spent playing alone suggested that children in the intervention program were more willing to explore the play materials than were general population children.

Figure 6 shows an apparent Groups x Trials interaction. This result indicated that only experimental children increased in solitary play when 5 toys

were provided in comparison to the no toys or 1 toy trials. Further, the experimental group spent more time in solitary play than did the general population children in the 5 toy trial.

Discussion

Although it is tenuous to make a case for no difference findings, it is still noteworthy that the disadvantaged children attending high quality daycare were similar to their more advantaged home-reared age mates in peer interaction behaviors. Typically, the peer play was friendly and characterized by a willingness to share toys as well as activities. Often we observed games in which the children would engage in the same activity. For instance, one child would follow the other child running or crawling around the room, or between the legs of the adult's chairs. Aggressive behavior was extremely rare, and was no more prevalent among experimental than general population children. The literature concerning daycare effects on aggressive behavior is already equivocal. Our results support a reasonable hypothesis which has already been offered by Bronfenbrenner, Belsky and Steinberg (1976). That is, daycare programs are likely to achieve the values held by their staff and consumers. Thus, to some extent program effects may be program-specific. Programs which stress social development objectives are likely to achieve different results from programs less concerned with social outcomes.

It was interesting to observe that when play materials were limited, attempts to initiate peer interactions were more frequent. Under these circumstances the children might have engaged more in competitive behavior such as taking toys away from each other, or the children might have shown more cooperative behavior such as giving or sharing toys with each other. Our data showed that both kinds of interactions were more likely when 1 toy was present as compared to 5 toys. However, positive attempts to initiate interactions such as sharing were more frequent than negative attempts to initiate interactions such as taking toys

away from the peer. Taking toys occurred less than once per trial on the average, even in the 1 toy trial. Thus, at 26 months children do, in fact, readily share playthings with peers and sharing appears sensitive to changes in the number of playthings available. The children more often shared toys when the resources were few and thus the need to share was greater.

Previously, Ramey, Finkelstein & O'Brien (1976) reported that there was an increase in peer and teacher-child interactions when toys were temporarily removed from an infant nursery. This finding was interpreted as indicating that infants treat toys and people as alternative sources of stimulation and are unable to integrate toys and adults in their play. The results from this study are consistent with the conclusion that toys and people are alternatives for the toddler. However, it appears that by age 2 children can integrate toys and peers in their play, but they do so primarily when necessitated by limited play materials (as in the 1 toy trial).

The major difference between the experimental and general population children was in their behaviors towards the adults. The experimental children were more likely to be in proximity to and interact with the unfamiliar adult than general population children. The general population children were more inclined to interact with their caretaker and were less likely to even venture away from her than were experimental children. The data are consistent with the findings of Ricuitti (1974) and Kagan, Kearsley & Zelazo (1976) that daycare children are less apprehensive about interactions with adults other than the parent. The group differences in reaction to a novel social situation were also reflected, to a limited extent, in exploration of the nonsocial environment. Experimental children spent more time in solitary play with the toys than did the general population children when 5 toys were present.

Bronson (1972) suggests that the basis for wariness of strangers in the first year of life is a combination of incongruence of the visual image of the stranger and

the unpredictability of the stranger's behavior. The child might especially be concerned about his/her ability to control the stranger's behavior in a response-contingent fashion. A possible explanation for our results concerning social exploration is suggested by Bronson. Experimental children are provided with frequent opportunities to intensively interact with a variety of adults, namely their teachers. The children might learn that there is indeed a good deal of consistency in the behavior of adults toward them, especially in regard to responding contingently. Our own observational research in the classroom indicates that is the case for these experimental children. Data presented by Finkelstein, Dent & Gallacher (1975) indicated that toddlers in the intervention program spent 31% of their waking time interacting with teachers and teachers responded contingently to 45% of the behavior children directed toward them. Therefore, experimental children might have a generalized expectancy for competence, or "effectance" in White's (1959) terms, about interactions with unfamiliar adults and might be less wary about them.

In conclusion, our data suggest that the cognitive benefits of participation in preschool intervention programs do not necessarily come at the expense of the child's ability to interact positively with adults and peers. We have found that daycare may, in fact, enhance the child's ability to interact with unfamiliar adults. This may provide children who have had daycare experience with an important advantage when they enter public school.

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Table 1 (con't.)

Definitions of Behavior Categories

1. Vocalizations to peer - Vocalize while looking at the peer.

2. Active attempts to initiate peer interaction - This category included the following categories:

   a. Show: Hold a toy out towards the peer out of reach while looking at the peer.

   b. Give: Extend a toy to the peer within easy reach while looking at the peer.

   c. Touch: Deliberate physical contact with peer. The child had to touch with the hand or be looking at the peer.

   d. Request Participation: The child verbally requests the peer to join in activity or play with toys.

   e. Approach: The child moves towards the peer while looking at the peer.

3. Passive attempts to initiate peer interaction - This category included the following subcategories:

   a. Attempt to Share: The child makes an effort to use the same toy the peer is currently playing with. The attempt is to use the toy with the peer rather than to take over its possession. This category was scored primarily with toys that could be used simultaneously by two children such as the ball and the doll house.

   b. Join in Play: The child becomes involved in the ongoing activity of the peer.

   c. Accept a Toy: The child takes a toy that has been offered by the peer.

4. Initiate negative interaction with peer - This category included the following subcategories:

   a. Hit - forceful physical contact - included kicking.

   b. Take - remove a toy from peers possession when it has not been offered.

5. Lead interactive peer play - one child (leader) determined the nature of the peers' joint activity by choosing the activity and directing the behavior of the other child. To be interactive, the play must involve both children engaged in common action or using the same toy.

6. Participation in interactive play - The children are involved in interactive play as defined above, but there is no obvious leader.

7. Away from familiar caretaker - The child is located either on the stranger's side of the room or in the middle of the room (equidistant from both adults).

Table 1

8. Interact with familiar caretaker - This category included the following subcategories:

   a. Vocalizing: Vocalizing while looking at the caretaker.

   b. Touching: Hand contact with the caretaker

   c. Playing with toys in the lap of the caretaker

   d. Play with caretaker and toy: The child and caretaker both actively manipulate a toy

9. Proximity to the stranger - The child is located on the stranger's side of the room.

10. Interact with the stranger - This category included the same subcategories as given for interaction with the familiar caretaker, except that in this category the behavior involved the stranger.

11. Solitary play - The child is engaged in an activity alone usually with a toy and with little regard for the other people present.

Figure 1

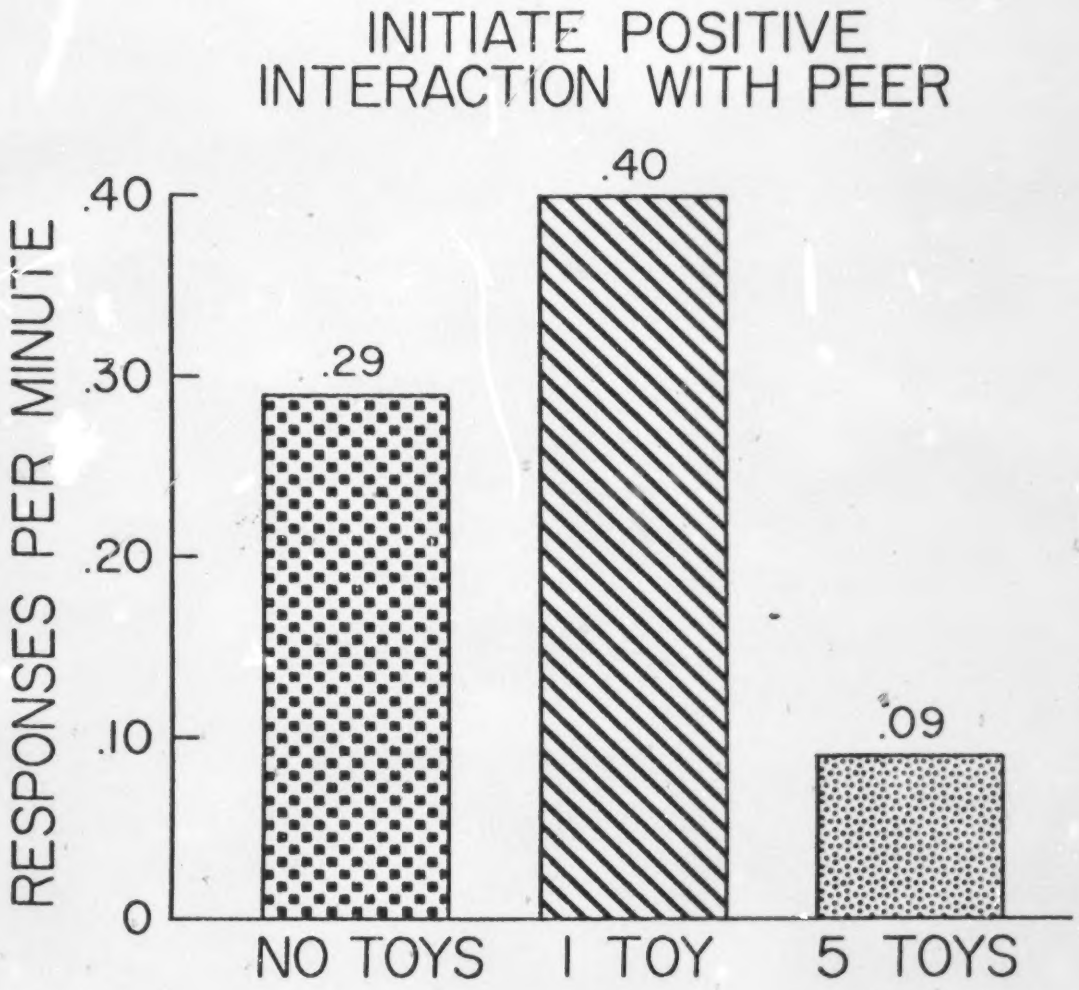

INITIATE POSITIVE
INTERACTION WITH PEER
RESPONSES PER MINUTE
.40
.30
.20
.10
0
.29
.40
.09
NO TOYS
1 TOY
5 TOYS

Figure 2

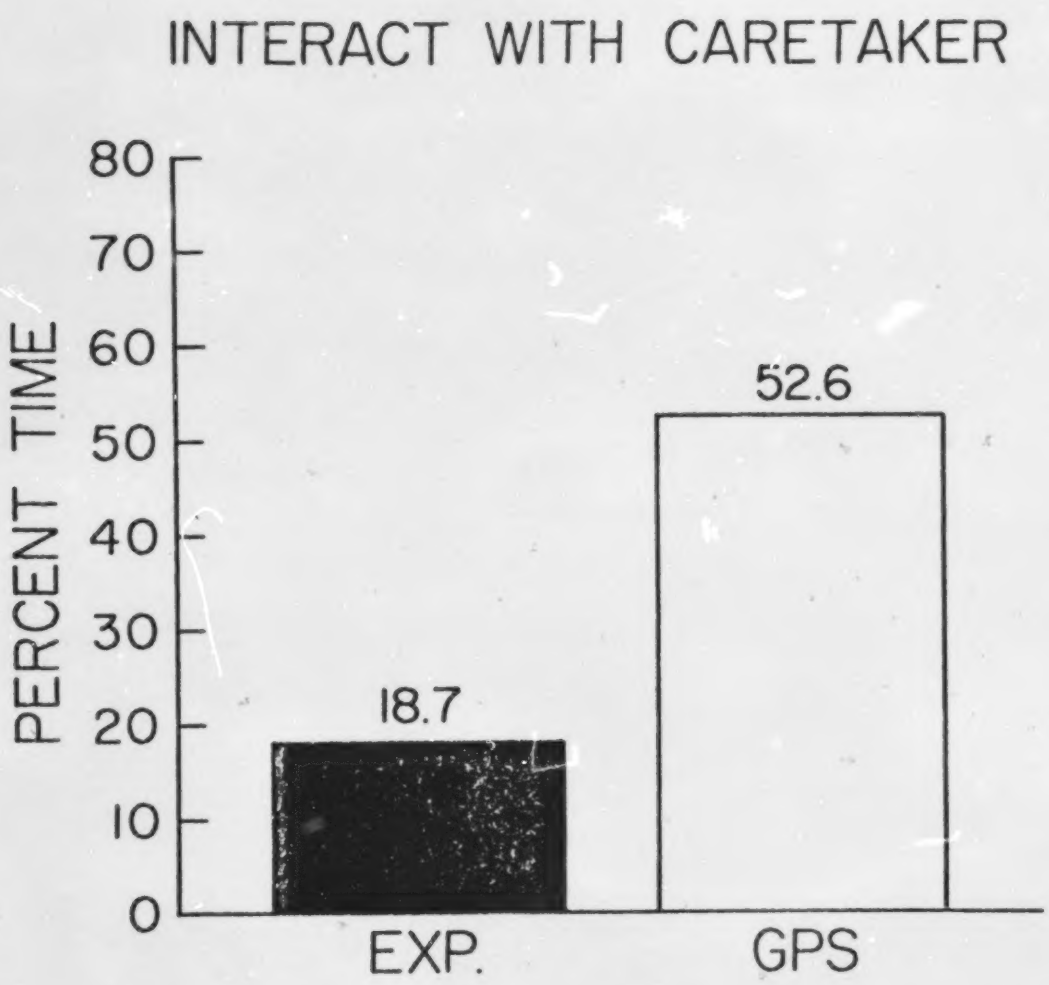

INTERACT WITH CARETAKER
PERCENT TIME
80
70
60
50
40
30
20
10
0
18.7
52.6
EXP.
GPS

Figure 3

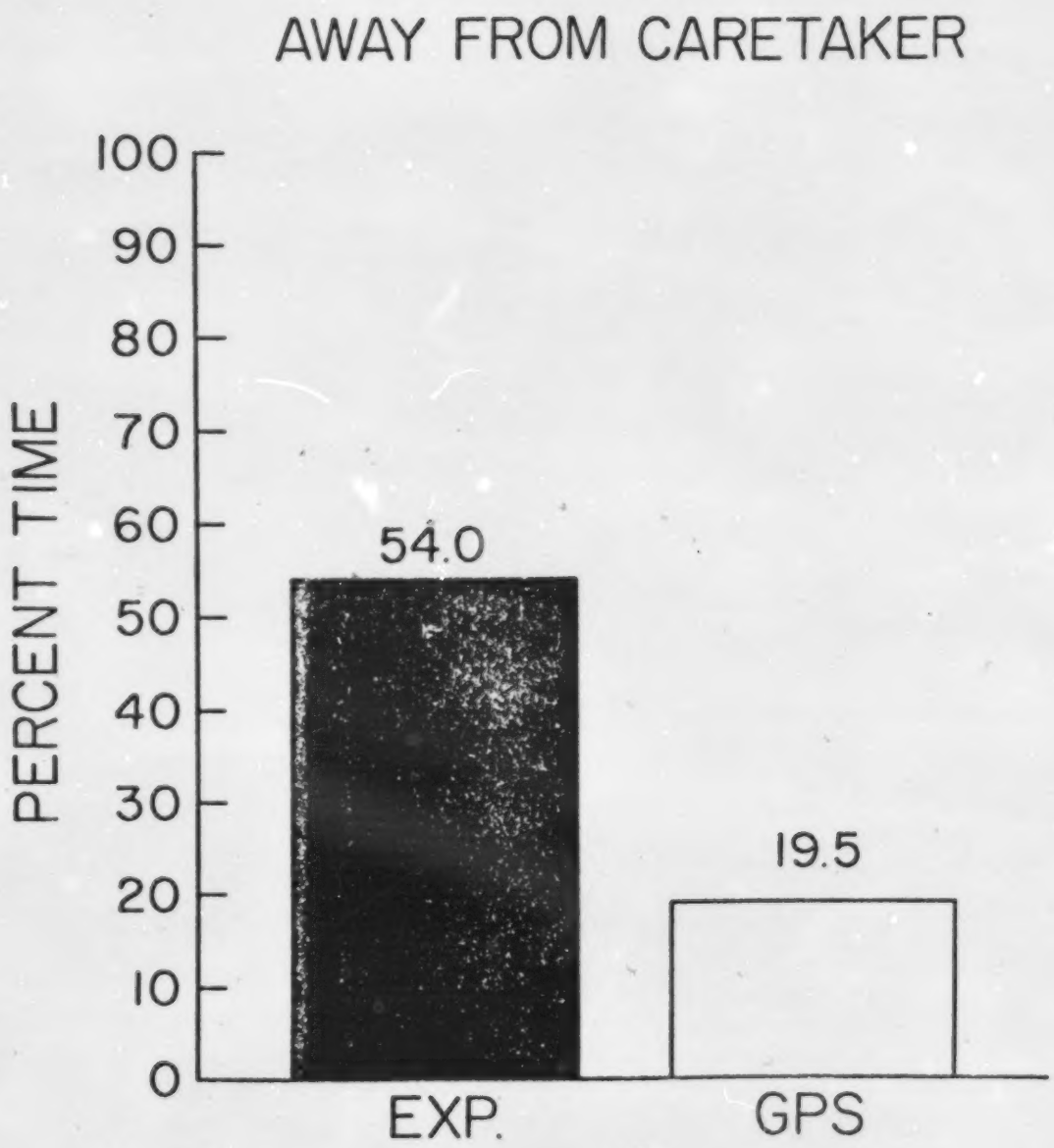

AWAY FROM CARETAKER
PERCENT TIME
100
90
80
70
60
50
40
30
20
10
0
54.0
19.5
EXP.
GPS

Figure 4

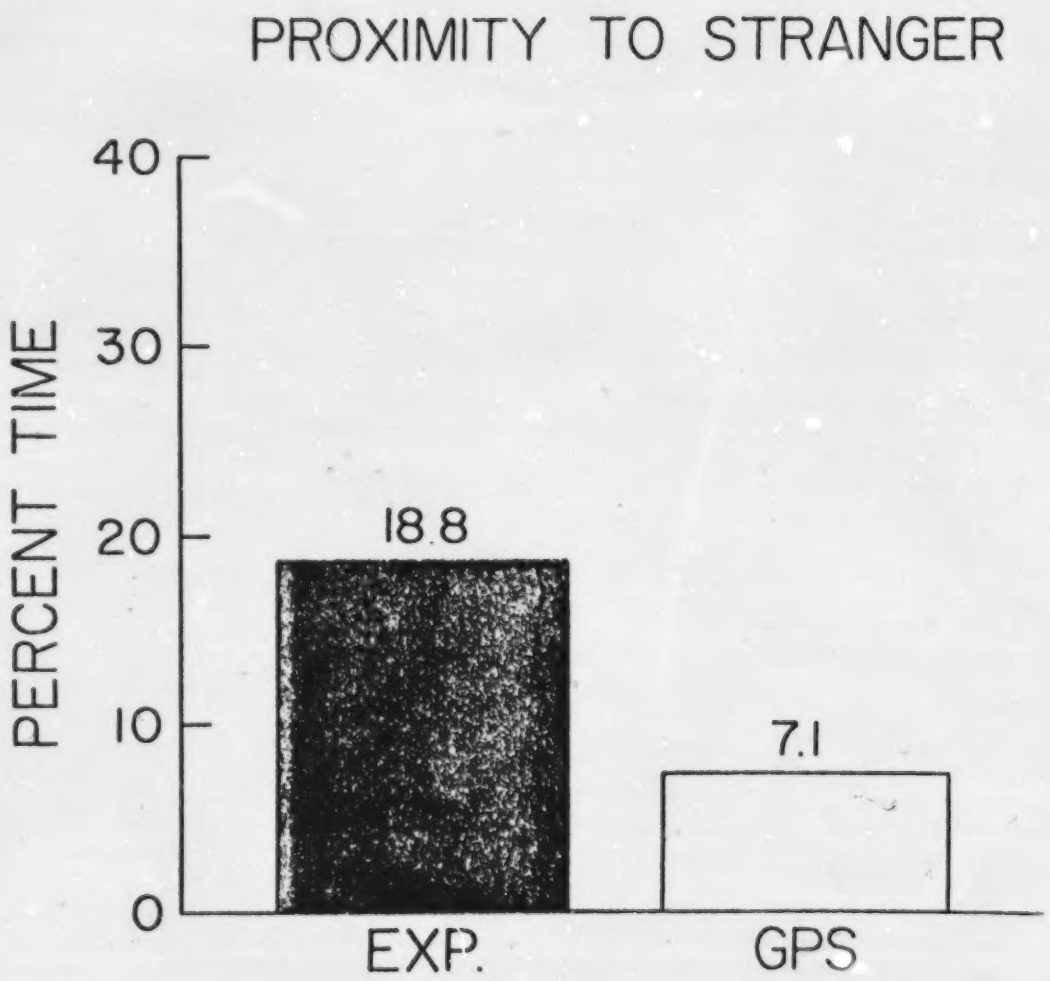

PROXIMITY TO STRANGER
PERCENT TIME
40
30
20
10
0
18.8
7.1
EXP.
GPS

Figure 5

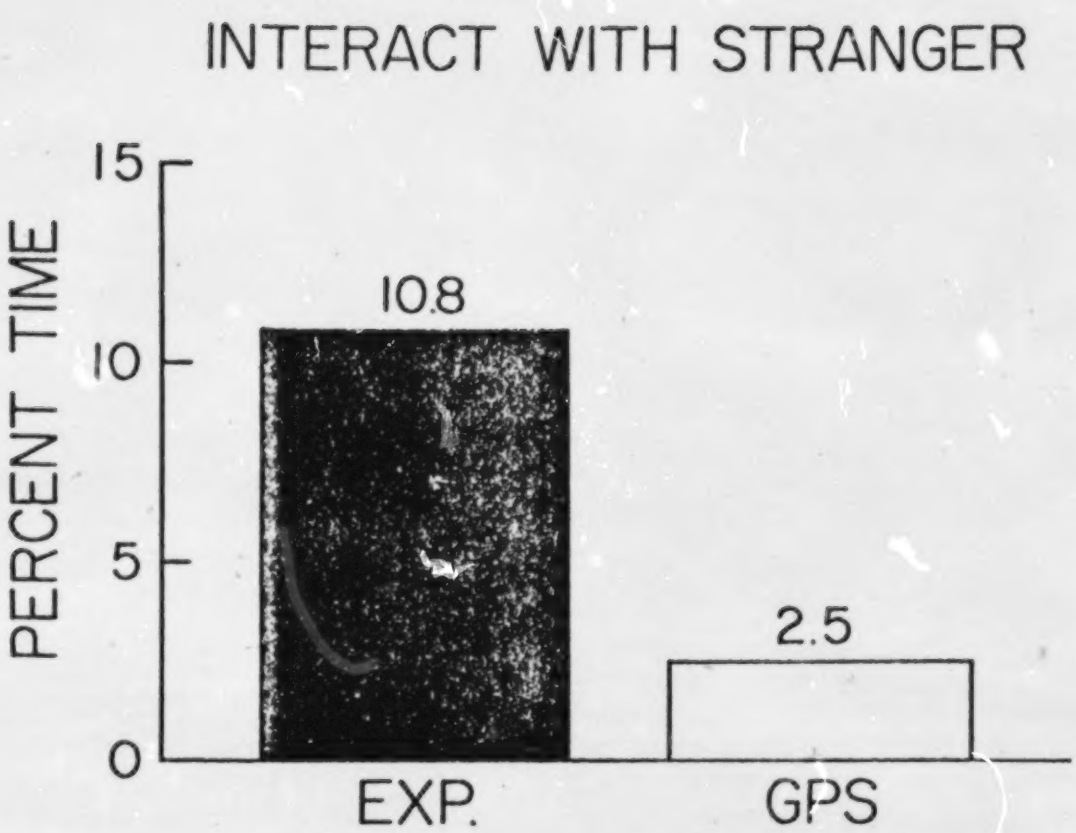
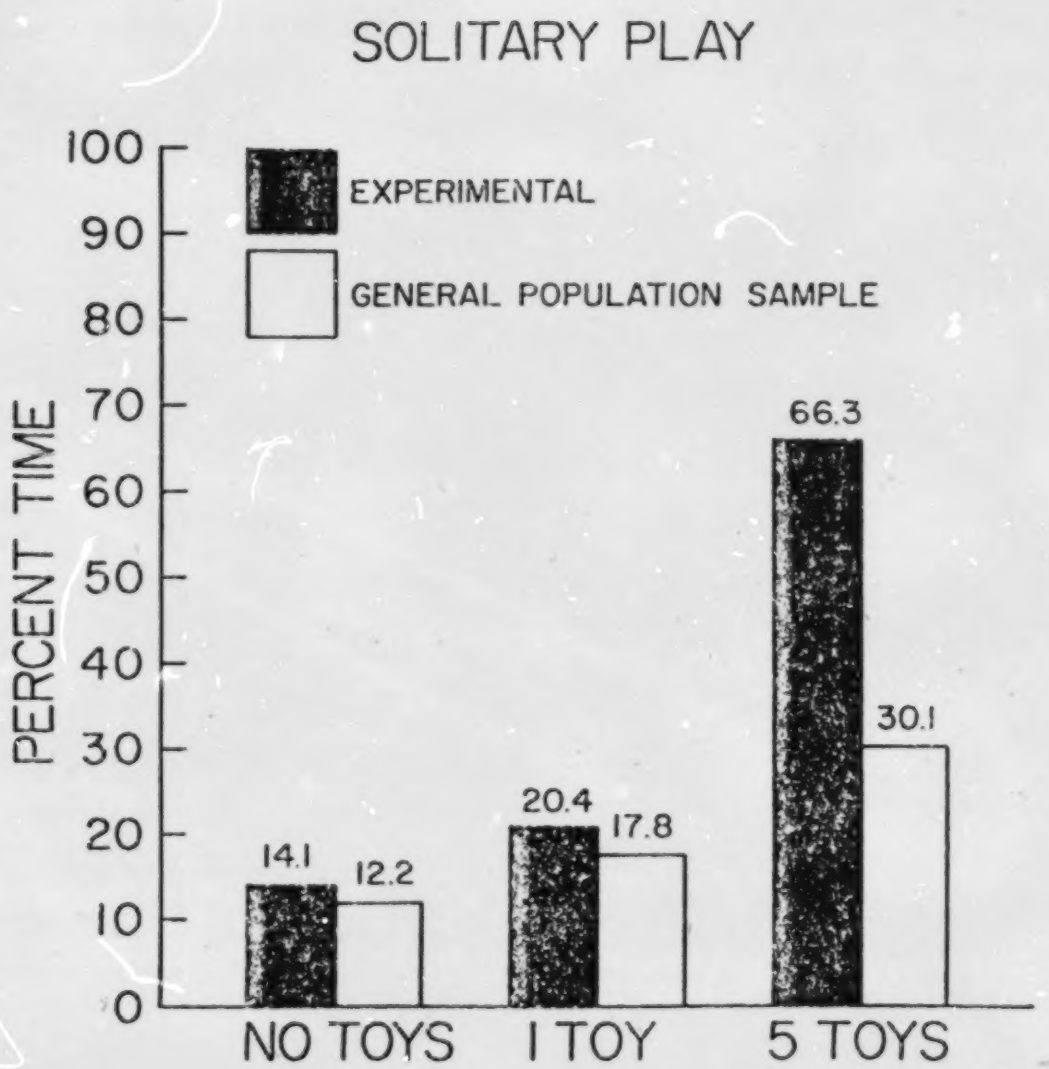


Figure 6


SOLITARY PLAY
EXPERIMENTAL
GENERAL POPULATION SAMPLE
PERCENT TIME
100
90
80
70
60
50
40
30
20
10
0
14.1
12.2
20.4
17.8
66.3
30.1
NO TOYS
1 TOY
5 TOYS